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Two new Grasses from Van Cortlandt Park, New York City.

By EUGENE P. BICKNELL.

(PLATES 328, 329.)

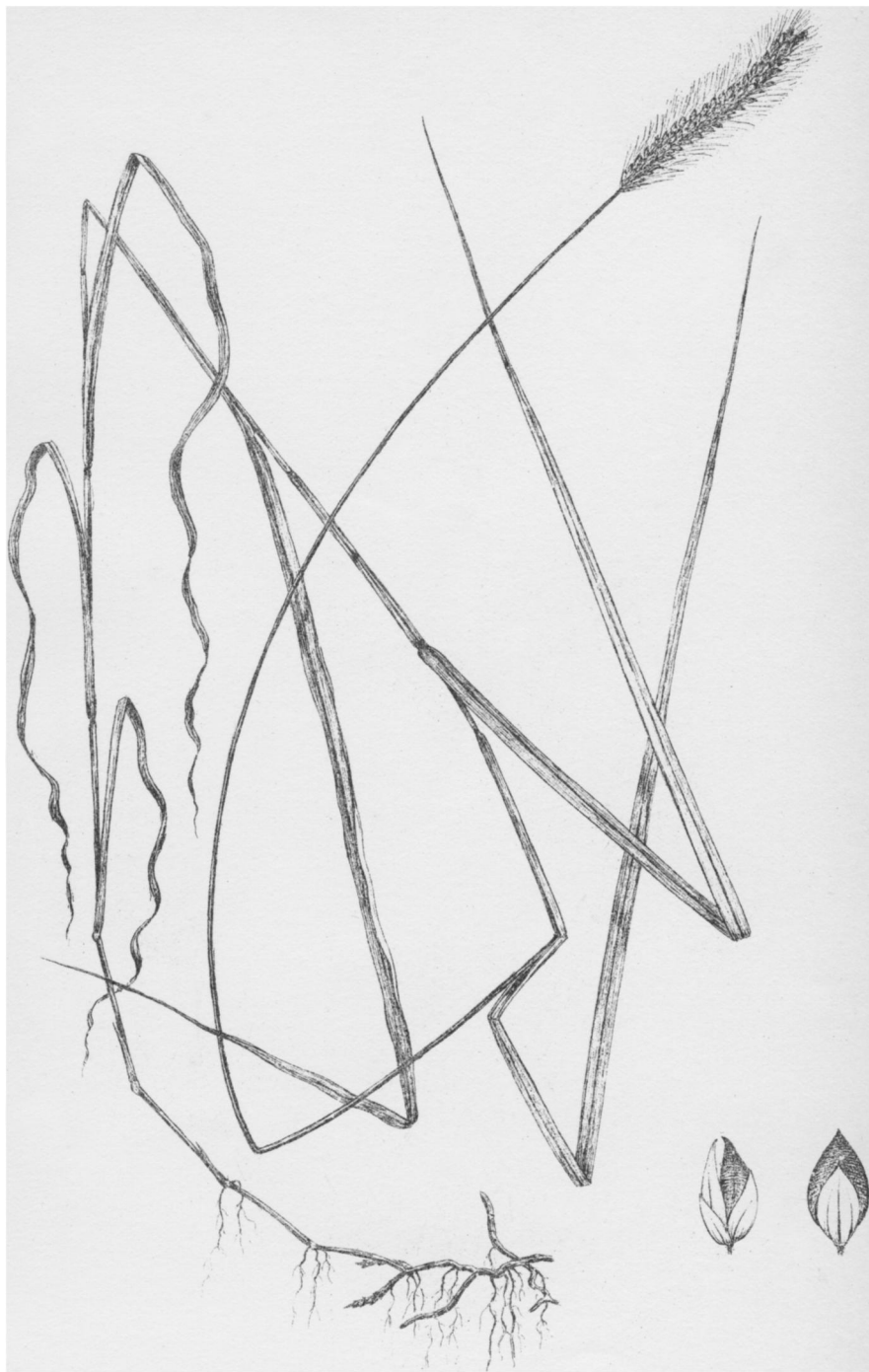
SAVASTANA NASHII.

Perennial from slender creeping rootstocks; culm simple, erect, 6–10 dm. tall, smooth and glabrous; sheaths smooth and glabrous, closely embracing the culms, all, or all but the upper one, arising from near the base of the culm, elongated, the upper one sometimes 30 cm. long, much overlapping, the exposed interspaces 5–15 cm. in length; principal leaves 5–8, ascending or erect, narrowly linear from a narrowed base, tapering to an attenuate apex, 3–5 mm. wide, 1–3 dm. long, much longer than the interspaces, the penultimate leaf usually longest, those below gradually shorter, one or more basal ones abruptly much reduced and nearly bladeless; lower surface of the leaf-blades bright shining green, upper surface dull green and glabrous or with some obscure pubescence, the rough edges scarcely involute when dry except at the scabrous apex; lower leaves at flowering-time becoming dry and narrowly involute; ligule from 2 mm. long on the lower leaves to 7 mm. long on the uppermost, the margins becoming ciliate, pubescent; panicle slenderly long-exserted, very loose and open—often one-sided, 1.3–4.8 dm. long, the very delicate hairlike branches simple or remotely short-branched, 8–23 cm. long, in about four distant main pairs below the drooping top of the panicle, the lower pairs 5–8 cm. apart, all loosely spreading or ascending and bearing the spikelets above the middle in delicate moniliform pendulous sprays; spikelets 5–8 mm. long, 1.6–3 mm. wide; lower glumes somewhat unequal, the inner surpassing the outer 1–1.5 mm., delicately membranous and silvery hyaline, 3-nerved, the outer nerves often nearly obsolete on the narrower first glume, the second glume 3 mm. wide, tapering from about the middle to an attenuate apex; flowering-glumes about 5 mm. long, narrower and more gradually acuminate than in *S. odorata*, 5-nerved, chartaceous, chestnut-brown, often obscurely puberulent-roughened, minutely awned from the acuminate bifid apex; palea cleft at the apex into slender teeth; fertile flower hairy-pubescent at the top of the minutely awned outer scale; each flower with a minute tuft of hairs at its base; sterile culms similar to those of *S. odorata* but taller, its more numerous leaves longer and more acuminate. (Plate 328.)

Discovered in Van Cortlandt Park, New York City, July 11, 1897, freshly in flower and growing plentifully about the weedy border of an alder thicket close to a brackish marsh. Near by was



SAVASTANA NASHII Bicknell.



CHÆTOCHLOA VERSICOLOR Bicknell.

an abundant growth of *Savastana odorata*, its remaining fertile culms having the leaves and panicle dried and brown. *S. Nashii* was still in flower at the same spot on August 8th and withering specimens were collected September 18th.

This grass, although closely related to *Savastana odorata* (L.) Scribn., differs conspicuously in various characters and presents a widely different appearance. Its fertile culms are much taller with more numerous and very much longer leaves, which are narrower, especially at the throat, and with closer sheaths, while the panicle is larger and incomparably looser. The spikelets are narrower and slightly longer, their very delicately membranous outer glumes more unequal, less distinctly nerved, narrower and more gradually acuminate with their tips mostly straight at maturity instead of often outcurved as in *S. odorata*; the flowering glumes are narrower and more acuminate and often more distinctly awned and ciliate.

Not the least noteworthy thing in regard to this grass as compared with *S. odorata*, is its much later flowering period—July to September; *S. odorata*, the earliest flowering of our native grasses, blooming from the middle of April till June.

I take pleasure in naming this interesting grass for Mr. George V. Nash, with whom I was enabled to make a study of it in the field a few days after its first discovery.

CHAETOCHELOA VERSICOLOR.

Perennial from an intricately short-branched and somewhat stoloniferous rootstock; not at all or but slightly tufted; culm 6–12 dm. high, ascending or suberect from an assurgent base, slender, often somewhat zigzag below, simple or bearing a few ascending branches; leaves long and narrow, 1–3.5 dm. long, 2–6 mm. wide, narrowed toward the base, slenderly long-attenuate at the apex, pale green or glaucescent, becoming much colored with purple, smooth, or slightly roughened on both surfaces toward the scabrous apex, the margins minutely serrulate-scabrous except towards the very smooth base which is often finely canescent in the throat but never pilose; ligule a very short, dense fringe of scarious hairs; sheaths very smooth and glabrous, compressed and keeled, the lower mostly longer than the internodes, the upper ones shorter; nodes dark; basal internodes often less than 3 cm. long, those above gradually longer, the upper ones often 1–1.8 dm. in length; peduncles very slender, exserted 1.5–3.5 dm., slightly

roughened towards the top and finely pubescent just below the spike; spike rather slender, even slightly flexuous, 2.5–7 cm. long, about 5 mm. thick or across the bristles 1.5 cm., simple, the rachis and pedicels of the spikelets finely hispidulous-pubescent; spikelets single or rarely two together, on pedicels 0.5 mm. long, about 2.5 mm. long, and 1.25 mm. wide; first scale ovate, acute or obtuse, 3-nerved, about one-half the length of the flower; second scale acute, 3-nerved or imperfectly 5-nerved, two-thirds to three-fourths the length of the subequal third and fourth scales; third scale 5-nerved, ovate-oblong, incurved-apiculate; fourth scale ovate-oblong, rather pointed, boat-shaped, the depth slightly more than half the width, the dorsal curve gradually descending, often with a slight concavity, into the somewhat beak-like incurved-apiculate apex, finely transversely rugulose, and obscurely 3-nerved, at maturity deep purple, at least toward the end, giving the spikes a squarrulose appearance; bristles in two nearly united clusters of mostly 5 bristles each, very slender, 6–10 mm. long, ascending or spreading, pale yellowish-green or sometimes purplish. (Plate 329.)

Plants that have been cut early in the season later become closely fastigate-branched from the base, and bear shorter and thicker spikes and more purplish bristles.

Borders of salt and brackish marshes Van Cortlandt Park and Kingsbridge, New York City; Green's Farms, Connecticut, on Long Island Sound; also in Florida.

From the manner of its occurrence at New York and in Connecticut this grass has every appearance of being a common coast-wise species. That it has hitherto been overlooked is to be explained through its similarity to *C. viridis* and *C. glauca*. With the former it is not closely related and need not be critically compared. Its affinity with *C. glauca* is much closer, yet it is perfectly distinct. It differs from *C. glauca* mainly in its perennial instead of annual underground system, more slender culms, much narrower and paler leaves, never pilose at the base, more slenderly peduncled spike, which is narrower and less densely flowered, the spikelets smaller, especially narrower and less gibbous, the scales somewhat different in relative length and venation, the glume of the perfect flower much less convex and rugose and becoming deep purple, the bristles longer and weaker and never tawny-orange as in *C. glauca*.

Chaetochloa versicolor finds its nearest relative in the following imperfectly known species of the Southern States:

CHAETOCHLOA PERENNIS (Curtiss).

C. glauca var. *perennis* Curtiss in Beal's Grasses of North America, 2: 156. 1896.

This grass, although very near to *C. versicolor*, differs in some noteworthy characters. It is even paler and more glaucous and grows in dense erect tufts, the culms closely branched from the base; the lower sheaths are more broadly flattened, the leaves broader and less attenuate and provided towards the base with long white hairs arising singly from scattered papillae; the ligule is sometimes scarcely fringed; the spikes are often longer, the spikelets at full maturity broader and less pointed, oblong or obovate-oblong and obtuse, the first and second scales shorter, broader and more obtuse, the second one 5-7-nerved instead of mostly 3-nerved, the glume of the perfect flower finely rugulose and remaining green at maturity or sometimes merely tipped with purple. The shorter first and second scales, as compared with *C. versicolor*, seem to be perfectly constant; the first scale is about one-third the length of the spikelet, the second scale one-half its length; in *C. versicolor* the respective scales are one-half and two-thirds or three-quarters the length of the spikelet.

Mr. George V. Nash, who has endeavored to ascertain whether this apparently common grass has not had some previous history, points out to me that it is apparently the same as Muhlenberg's *Panicum laevigatum* in Elliott's Bot. S. C. and Ga. 1: 112. 1817; Muhlenberg's name is preoccupied, however, by *Panicum laevigatum* of Lamarck (Fl. France, 3: 578. 1778). In the herbarium of Columbia University is a sheet from the Torrey Herbarium holding a flowering specimen of a *Chaetochloa* labeled *Panicum laevigatum* apparently in Elliott's handwriting and bearing his name in a corner of the label. This, if not part of Elliott's type, at least may be taken to be authentic material and, though very young, is certainly to be referred to the plant here raised to specific rank. Another sheet from Chapman's herbarium bearing imperfect specimens of apparently the same thing is labeled *Setaria glauca*, var. *laevigata*, coast of Florida. Still other specimens are labeled *Setaria flava* Kunth, a grass unknown to me, but which Mr. Nash assures me is quite a different South American species.